

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-10 (canceled)

Claim 11 (currently amended): An image processing device, comprising:

a degree-of-white-background-likeliness detection unit configured to detect a ~~concentration of white pixels in a binary image obtained by binarizing an input multi-level image, and to detect~~ a degree of white-background likeliness in respect of a local area of ~~[[the]] an input multi-level image in response to the detected concentration of white pixels, said concentration of white pixels being defined as a contiguous area of more than a predetermined number of pixels having pixel values whiter than a predetermined threshold;~~
and

a gray-level conversion unit configured to convert a gray level of the input multi-level image according to conversion characteristics that change in response to the degree of white-background likeliness,

wherein said degree-of-white-background-likeliness detection unit is an area detection unit that marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and other areas as non-white-background areas, said area detection unit including:

a thresholding unit configured to carry out thresholding of the input multi-level image to generate a binary image;

a white-background-area detection unit configured to count white pixels in a given area of the binary image, and to mark the given area of the binary image as a white-background area or a non-white-background area in response to the count; and
an expansion unit configured to spatially expand the white-background area by a predetermined number of pixels in all directions when the white-background area is detected by the white-background-area detection unit.

Claims 12-14 (canceled)

Claim 15 (currently amended): The image processing device as claimed in claim [[14]] 11, wherein the predetermined number of pixels and an image resolution (dpi) of the input multi-level image are related as:

$$150 < (\text{the image resolution (dpi)} / \text{the predetermined number of pixels}) < 400.$$

Claims 16-34 (canceled)

Claim 35 (new): A method of processing an image, comprising:
detecting a degree of white-background likeliness in respect of a local area of an input multi-level image; and
converting a gray level of the input multi-level image according to conversion characteristics that change in response to the degree of white-background likeliness,
wherein said detecting comprises marking white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and other areas as non-white-background areas, said marking including:

carrying out thresholding of the input multi-level image to generate a binary image;

counting white pixels in a given area of the binary image;

marking the given area of the binary image as a white-background area or a non-white-background area in response to the count; and

spatially expanding the white-background area by a predetermined number of pixels in all directions.

Claim 36 (new): The method as claimed in claim 35, wherein the predetermined number of pixels and an image resolution (dpi) of the input multi-level image are related as:

$$150 < (\text{the image resolution (dpi)} / \text{the predetermined number of pixels}) < 400.$$

Claim 37 (new): An image processing system, comprising:

an image input unit configured to acquire an image;

a degree-of-white-background-likeliness detection unit configured to detect a degree of white-background likeliness in respect of a local area of the acquired image;

a gray-level conversion unit configured to convert a gray level of the acquired image according to conversion characteristics that change in response to the degree of white-background likeliness; and

an image output unit configured to reproduce a gray-level converted image,

wherein said degree-of-white-background-likeliness detection unit is an area detection unit that marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and other areas as non-white-background areas, said area detection unit including:

a thresholding unit configured to carry out thresholding of the acquired image to generate a binary image;

a white-background-area detection unit configured to count white pixels in a given area of the binary image, and to mark the given area of the binary image as a white-background area or a non-white-background area in response to the count; and

an expansion unit configured to spatially expand the white-background area by a predetermined number of pixels in all directions when the white-background area is detected by the white-background-area detection unit.

Claim 38 (new): The image processing system as claimed in claim 37, wherein the predetermined number of pixels and an image resolution (dpi) of the acquired image are related as:

$$150 < (\text{the image resolution (dpi)} / \text{the predetermined number of pixels}) < 400.$$